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   STATEMENT OF THE PROBLEM

   OBJECTIVES

   HYPOTHESES

   RESEARCH METHODOLOGY

   RESULTS & DISCUSSION

   FINDINGS

   RECOMMENDATIONS/SUGGESTIONS

   CONCLUSIONS

   SCOPE FOR FURTHER RESEARCH

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   APPENDIX/ANNEXURE

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CONTRIBUTIONS TO BOOKS

- Sharma T., Kwatra, G. (2008) Effectiveness of Social Advertising: A Study of Selected Campaigns, Corporate Social Responsibility, Edited by David Crowther & Nicholas Capaldi, Ashgate Research Companion to Corporate Social Responsibility, Chapter 15, pp 287-303.

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FINANCIAL PERFORMANCE (FP) AND INFORMATION TECHNOLOGY CONTROL SYSTEM (ITCS) IN NIGERIN BANKS

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ABSTRACT

The objective of this study is to determine the extent to which information technology control system (*ITCS) relates to financial performance (FP) and establish whether the relationship is attributable to the existence of the information technology control officer (ITCO) and the separation of information technology security officer or group (ITSO/G) from the information technology (IT) division. In this wise, data were extracted from a hundred and five annual financial reports and accounts from 21 different banks for a period of five years (2006 – 2010) that made the sample of the study. In order to test hypothesis formulated for the study, the anova, and correlation were used as techniques for data analysis. The findings of the study revealed ITCS is not significantly related to FP. The culture of identifying separate capacities in the IT division and control division should be pursued with vigor by banks.*

KEYWORDS

Financial performance (FP), Information technology control system (ITCS).

INTRODUCTION

The Nigerian banking sector has been exposed to a lot of experiences to make it stand the taste of time. This exposure came through series of reforms and innovations. One of such innovation is technology. Technology outfaced manual processes in the banking sector. The technology was referred to as electronic data processing (EDP) which through time, transformed into information technology (IT). As a result, there was a reflection of an equivalent change in the use of banks from automation of paper flow to reduction in unit cost (David, 1995). Consequently, banks became increasingly dependent on deployment of IT which in turn made budget for IT in the sector, larger than that of any other sector in Nigeria (Ovia, 2000). A big budget IT implies, huge investments on IT infrastructure and personnel, more installed base for personal computers (PCs), local area net works (LANs), wide area networks (WANs) and a better linkage to internet than any other sector of the economy (Worem, 2000).

According to HSBC (2000), the investment in IT attracts benefits that are more than three times it cost. One of such benefit is that banking operation will have a more effective control activities component of the internal control system (ICS) through several analytical tools generated by the EDP (Nwanzembe, 2010). The EDP is the basis of information technology control system (ITCS).

ITCS are a subset of an organisation's internal control system (ICS). It relates to the confidentiality, integrity, availability of data and overall management of IT function of the organisation. These attributes breeds the understanding that, IT controls can have a direct or indirect impact on financial reporting process. For instance, IT application controls that ensure completeness of transactions can be directly related to financial assertions. Thus, the relationship between IT control and financial assertion calls for a regulatory protection. In this wise the central bank of Nigeria (CBN) in 2003 required banks to identify an information control technology compliance officer (ICTCO) whose responsibility is to ensure compliance with CBN guide lines in application system soft ware and bank policy on ICT. This created the first component of information technology governance (ITG). Furthermore, banks were directed to make certain that the information technology security officer or group (ITSO/G) that deals with information system security is distinct from the IT division in charge of computer system software implementation. This also, created the second component of information technology governance (ITG).

The CBN directive was to align information technology control system (ITCS) to internal control system (ICS) in order to optimise corporate governance practices by ensuring increase in shareholders' value and meeting the expectations of other stakeholders. From this view, the following can be deduced; when information technology control system is aligned with internal control system through a well defined code of corporate governance practice, there is the possibility of return on investments which increases shareholders value and satisfies the expectations of other stakeholders. It is in this context that the study seeks to address the following question; to what extent has ITCS relates to financial performance (FP) and whether the relationship is attributable to the fact that, the ICTCO has been identified and the ITSO/G is distinct from the IT division? Based on this premise the following hypothesis was formulated:

Ho_1 financial performance is not significantly related to Information technology control system's (separation of IT capacities [SITC] and the existence of the information communication technology compliance officer [ITCO]) of banks in Nigeria.

The remaining part of this paper is structured into five sections, section one is the introduction including this paragraph. Section two, presents the literature in concepts, prior studies and theoretical review. Immediately after that is the methodology, presenting the model and how the study defined and measured it variables. Afterwards, is the discussion of findings and based on the findings the paper concludes in the last section of the paper.

REVIEW OF LITERATURE

CONCEPTS

In business and accounting, information technology control (ITC) are specific are specific activities performed by persons or system design to ensure that business objectives are met (Wikipedia, 2011). ITC are a subset of an enterprise's internal control system (ICS). This is because it complements mostly the control environment (CE) and the control activities (CA) components of the ICS. The former sets the tone of an organization, influencing the control conscientiousness of its people. It is the foundation for all other components of internal control system, providing discipline and structure. Control environment factors include the integrity, ethical values and competence of the entity's people. It is the control component that insists, management assigns responsibilities, organizes and develop people and pay attention to the direction it provides (Boyd and Edward, 1995). ITC that have direct impact on the control environment is the information technology general control (ITGC). They include controls over the IT environment, program development and program changes. It represents the foundation of the IT control structure by helping to ensure the reliability of data generated by the ITCS and supports the assertion that the system operates as intended and that output is reliable.

On the other hand, the latter component ensures accuracy and completeness of records in accounting, arithmetic, authorization and approval controls in the ICS (Dobrowolski, 2006). Arithmetic and accounting control requires the putting in place of an effective bookkeeping and accounting system (Arens & James, 1999; Graz and Manson, 2000; and Dandago, 2002). Authorization and approval control focuses on all the transactions that should be authorized or approved by the appropriate person, before they are executed. In this regard, an organization will have to develop a policy on the maximum amount of expenditure to be incurred by officers and committees at various levels. The ITC that have direct impact on the control activities is the information technology application control (ITAC). It deals with transaction processing control, sometimes called input processing-output controls. It is fully automated, i.e it performs automatically by the system designed to ensure the complete and accurate processing of data from input through output. They help to ensure the privacy and security of data (Wikipedia, 2011).

From the explanation presented above, information technology control system (ITCS) plays an important role in the financial reporting system of an organisation. Because the control environment component and control activities components of the internal control system (ICS) are complimented by the information technology general control (ITGC) and information technology application control (ITAC) respectively.

PRIOR STUDIES

Information technology (IT) is believed to have the potentials to enhance information driven economy and social services in specific areas of finance, education and health (Odedra et al, 1993). However, the benefits of IT have been argued differently by various researchers. For most of the studies the benefits are positive, while for some others it is a negative situation. The common grounds for all the researches is that, they all investigated the benefits of IT in banks by evaluating electronic banking (e-banking). Like the study of Wu et al (2006), they posit it created an unprecedented opportunities for banks in the ways they organise financial products development, delivery and marketing via the internet. Similarly, Simpson (2002) noted e-banking is likely to be implemented where the delivery of banking services are less than the operational costs of delivery of financial services through branch networks. For Sannes (2001) too, e-banking is driven largely by the prospects of operating costs minimisation and operating costs maximisation. This position was earlier revealed by Emmon and Green (1998). More so, in terms of operational efficiency it is evident that, the operational premises and back office paper work are minimised because the customer can use on line financial self services to attend to financial transactions (Heeks, Idowu et al, 2002; Liao and Cheung, 2003; Southard and siau, 2004; Akindele et al, 2006; and Agboola, 2007).

From the same perspective, Jalath-conia et al (2001) examined the economic value network by analysing data from the earlier implementation of an electronic inter-bank payment adopted by all Mexican banks. They measured performance by balances on the reserve account that commercial banks held at the central bank. They discovered electronic interbank payments network enhances banks reserve management performance, i.e. reducing opportunities and penalty costs by providing more timely information on deposit and withdrawals affecting the bank's reserve accounts.

Going by the reviews above, IT usage has quite a number of advantages. According to Fox and Zonneveld (2003), there are more benefits when an organisation builds a strong internal control system (ICS) with IT programs. This includes preventing the loss of resources and the probability of system breach, making better business decisions with high quality and more timely information, optimising operations with an integrated approach to security availability and processing integrity.

However, some studies maintained IT made organisations vulnerable to a lot of unfavourable conditions. For instance the study of Donli (2002) posit that, because most banks used network architecture and solutions with little attention paid to their compatibility, interfacing these applications for overall system synergy was difficult. Earlier on Saatcioglu et al (2001) argued , while IT offers new opportunities to banks, it also poses many challenges such as the innovation of IT applications, the blurring of market boundaries, the breaching of industrial barriers, the entrance of new competitors and the emergence of new business models. Furthermore, the speed and scale of the challenges are rapidly increasing with the pervasiveness of the internet and the extension of information economy (Wu et al, 2006).

For Idolor (2010), the tendency for software to be manipulated at the data collection stage, the input processing stage, or even the data dissemination stage, improper input system, virus program and cyber theft is almost not avoidable. Also, Stalder (2002) opined IT proved apparent failure.

There are studies that went beyond knowing whether IT is beneficial or not. These studies emphasis was to know whether or not IT had any impact on the performances of banks by looking at return on equity and assets. For example, Furst et al, 1998 did not find IT affecting the profitability of banks as measured by return on equity for shareholders. From a different angle, Nolle et al (2000), investigated whether offering internet banking affected a bank's profitability. They discovered IT better influenced accounting ratios and higher returns in equity for bank's share holders.

METHODOLOGY

The objective of this study is to assess the impact of information technology control system (ITCS) on financial performance (FP) of Nigerian banks, and to determine whether the impact is attributable to the fact that, the information communication technology compliance officer (ICTCO) exist in banks and the information technology security officer or group (ITSO/G) is distinct from the IT division (i.e separation of IT capacities [SITC]).

To achieve these objectives, content analysis was used to collect ITCS and FP data from the annual financial reports of 21 banks quoted on the Nigerian stock exchange fact book 2009, for the period 2006-2010. The choice of this period is influenced by the fact that, it is in the era of post consolidation. The study developed a model as the basis for testing the hypothesis formulated for this study. The study specified an accounting ratio (Return on investment [ROI]) as proxy for the dependent variable financial performance (FP). The choice of this proxy is based on the assertions that, a lot of resources go in to achieving an ITCS that ensures reasonable assurance for positive returns on banks assets. For the independent variable information technology control system (ITCS) two proxies separation of IT capacities (SITC) and the existence of the information communication technology compliance officer (ITCO) were employed to represent it. The choice of these proxies is based on the objective of this study which is to know whether the impact of ITCS on FP is attributable to these proxies. SPSS version 15 was used to aid the analysis of data collected.

POPULATION AND SAMPLE OF THE STUDY

The population of the study is the 21 banks quoted on the Nigerian stock exchange. These banks are also the sample of this study. This implies n = N = 21. Where:

n = Sample size

N = Population size

Arising from the above, considering the period under review (2006-2010), a total of 105 annual reports and account made the sample. However, due to non availability of trend flow in data for the study period 10 banks only made the sample. The researchers believe is that, this will not in any way limit the reliability of results generated from 50 annual financial reports of the following banks; First bank, Union bank, Guarantee trust bank, Sterling bank, Wema bank, FCM bank, Skye bank, Diamond bank, Eco bank, and Zenith bank.

MODEL AND VARIABLES SPECIFICATION

The following mathematical model;

FP = F (SITC + ITCO) was developed to test the following null hypothesis:

Ho_1 Corporate financial performance is not significantly related to Information technology control system's (separation of IT capacities [SITC] and the existence of the information communication technology compliance officer [ITCO]) of banks in Nigeria.

TECHNIQUE OF DATA ANALYSIS

The analysis of variance and correlation technique was employed to determine whether or not the impact of ITCS on FP is attributable to SITC and ITCO.

DISCUSSION OF FINDINGS

Hypothesis was formulated to achieve the objective of this study, which is to determine the extent to which ITCS impacts and relate to FP in Nigerian Banks. The result for testing the hypothesis is presented in tables' 4.1a-c below.

TABLE 4.1a: DESCRIPTIVE STATISTICS

	Mean	Std. Deviation	N
financial performance (FP)	.1100	3.92946	5
Separation of information technology capacities (SITC)	.8600	.19494	5
information technology compliance officer (ITCO)	.0000	.00000	5

Source: Spss output listing 2012

In table 4.1a above the means for the three variables are shown. That of FP is 0.1100, for SITC is 0.8600, and for ITCO is 0.000. That of ITCO is at nothing because binary number zero was assigned all through the years under review due to the non existence of such a capacity in Nigerian banks. The standard deviation for CFP is 3.9 that of SITC are 0.19, the variation between the mean is too wide to create a significant relationship.

TABLE 4.1b: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9.969	1	9.969	.577	.503
	Residual	51.793	3	17.264		
	Total	61.763	4			

a Predictors: (Constant), Separation of information technology capacities
b Dependent Variable: financial performance

Source: Spss output listing 2012

The table 4.1b above is the analysis of variance (anova) for the means. The variation in the means was shown to be very wide in table 4.1c. The F value in the anova table is the litmus test of significance for the variables and it is at 0.577, which is not significant. This explains why the wide variation in mean. To further test the second hypothesis, table 4.1e below, was also considered.

TABLE 4.1c: CORRELATIONS

		financial performance (FP)	Separation of information technology capacities (SITC)	information technology compliance officer (ITCO)
Pearson Correlation	financial performance (FP)	1.000	-.402	.
	Separation of information technology capacities (SITC)	-.402	1.000	.
	information technology compliance officer	.	.	1.000
Sig. (1-tailed)	financial performance	.	.251	.000
	Separation of information technology capacities (SITC)	.251	.	.000
	information technology compliance officer (ITCO)	.000	.000	.
N	financial performance	5	5	5
	Separation of information technology capacities (SITC)	5	5	5
	information technology compliance officer (ITCO)	5	5	5

Source: Spss output listing 2012

In the table above, the correlation between FP and SITC is given at a fairly strong negative correlation (0.402) and it is not significant at the 5% level because 0.251 is greater than 0.05. This implies the null hypothesis which states; corporate financial performance is not significantly related to Information technology control system's (separation of IT capacities [SITC] and the existence of the information communication technology compliance officer [ITCO]) of banks in Nigeria is accepted.

CONCLUSIONS

The study had, as an objective to determine whether information technology control system (ITCS) relates significantly to financial performance of banks in Nigeria and to find out whether the relationship is attributable to the existence of an information communication technology control compliance officer (ITCO) whose responsibility is to ensure compliance with CBN guide lines on application system soft ware and bank policy on ICT. Also, the separation of the information technology security officer or group (ITSO/G) [that deals with information system security] from the IT division [in charge of computer system software implementation].

Based on the findings, the study concludes The extent to which ITCS impacts on FP is not significant because of the absence of ITCO in banks for the period under review. This implies there is no significant relationship between FP and ITCS. This finding is in line with that of Furst et al (1998).

The implication of this finding is that, the study did not find a significant relationship between investment in ITCS and Banks performance due to the absence of ITCO whose responsibility is to ensure compliance with CBN guide lines on application system soft ware and bank policy on ICT. This, the study believes is a limitation and a possible area for further research. Such research should recognise the other banks not included in the sample of this study as well as redefining the study period and validating findings with primary sources of data.

This study recommends the need for banks to strictly adhere to CBN guide line on the separation of the information technology security officer or group (ITSO/G) [that deals with information system security] from the IT division [in charge of computer system software implementation]. This will provide a sure direction for checks and balances.

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